

1 CLAIM LISTING

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3 1. (Currently amended) ~~Each of a plurality of coupling circuits~~ A coupling  
4 circuit for a Serial ATA storage device connected to storage device power through a  
5 power switch, connected to a first storage controller through a first bidirectional serial  
6 communication line, and connected to a second storage controller through a second  
7 bidirectional communication line, comprising:

8 a first Serial ATA controller-side transceiver receiving a first Serial ATA  
9 communication path;

10 a second Serial ATA controller-side transceiver receiving a second Serial ATA  
11 communication path;

12 a Serial ATA storage device-side transceiver;

13 coupling circuit switches selectively coupling either the first Serial ATA controller-  
14 side transceiver or the second Serial ATA controller-side transceiver to the Serial ATA  
15 storage device-side transceiver; and

16 a microcontroller coupled to the coupling circuit switches and the power switch  
17 and adapted to control the coupling circuit switches and the power switch based on  
18 communication through the first or the second bidirectional serial communication lines.

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20 2. (Currently amended) ~~Each of a plurality of coupling circuits~~ The coupling  
21 circuit of claim 1, further comprising an out of band squelch control component for  
22 activating the first Serial ATA controller-side transceiver receiving a first Serial ATA  
23 communication path, the second Serial ATA controller-side transceiver receiving a  
24 second Serial ATA communication path, and the Serial ATA storage device-side  
25 transceiver.

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27 3. (Currently amended) ~~Each of a plurality of coupling circuits~~ The coupling  
28 circuit of claim 1, wherein the microcontroller includes a processor coupled to [a] the  
29 power switch and coupled to the coupling circuit switches.  
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1           4.     (Currently amended) ~~Each of a plurality of coupling circuits~~ The coupling  
2 circuit of claim 1, wherein the microcontroller includes a processor coupled to a set of D  
3 flip-flops that are coupled to [a] the power switch and coupled to the coupling circuit  
4 switches.

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6           5.     (Currently amended) ~~Each of a plurality of coupling circuits~~ The coupling  
7 circuit of claim 1, wherein the microcontroller is programmed to as follows:  
8         switch the coupling circuit to a first storage controller;  
9         switch the coupling circuit to a second storage controller;  
10        power up the Serial ATA storage device; and  
11        power down the Serial ATA storage device.

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13          6.     (Currently amended) ~~Each of a plurality of coupling circuits~~ The coupling  
14 circuit of claim 5, wherein the microcontroller is further programmed to as follows:  
15         write data to a memory;  
16         read data from the memory; and  
17         read the status of the coupling circuit.

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19          7.     (Currently amended) ~~Each of a plurality of coupling circuits~~ The coupling  
20 circuit of claim 6, wherein the status includes information on whether the Serial ATA  
21 storage device is coupled to the first Serial ATA controller-side transceiver or the  
22 second Serial ATA controller-side transceiver, the Serial ATA storage device is powered  
23 up or down, the communication status, and/or the board revision and code revision  
24 levels of the coupling circuit.

25                Claims 8-21 (Withdrawn)  
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1           22.   (Currently amended) Each of a plurality of coupling circuits for a single  
2 ported storage device connected to storage device power through a power switch,  
3 comprising:

4           a first controller-side transceiver receiving a first communication path;  
5           a second controller-side transceiver receiving a second communication path;  
6           a storage device-side transceiver;  
7           a first control path separate from the first communication path;  
8           a second control path separate from the second communication path;

9           coupling circuit switches selectively coupling either the first controller-side  
10 transceiver or the second controller-side transceiver to the storage device-side  
11 transceiver; and

12           a microcontroller coupled to the coupling circuit switches, the power switch, and  
13 the first and second control paths, and adapted to control the coupling circuit switches  
14 and the power switch to the single ported storage device based on communication  
15 through the first or second control paths.

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17           23.   (Currently amended) ~~Each of a plurality of coupling circuits~~ A coupling  
18 circuit for a Serial ATA storage device, comprising:

19           means for receiving a first Serial ATA communication path;  
20           means for receiving a second Serial ATA communication path;  
21           means for coupling either the first Serial ATA communication path or the second  
22 Serial ATA communication path to the Serial ATA storage device  
23 communication lines; and

24           a microcontroller adapted to control the means for coupling circuit switches and  
25 power to the Serial ATA storage device based on inputs from the communication lines  
26 outside the first and second Serial ATA communication path.

1           24.   (New) A coupling circuit for a Serial ATA storage device connected to  
2 storage device power through a power switch, comprising:  
3           a first Serial ATA controller-side transceiver receiving a first Serial ATA  
4 communication path;  
5           a second Serial ATA controller-side transceiver receiving a second Serial ATA  
6 communication path;  
7           a Serial ATA storage device-side transceiver;  
8           a first communication line separate from the Serial ATA communication paths;  
9           a second communication line separate from the Serial ATA communication  
10 paths;  
11          coupling circuit switches selectively coupling either the first Serial ATA controller-  
12 side transceiver or the second Serial ATA controller-side transceiver to the Serial ATA  
13 storage device-side transceiver; and  
14          a microcontroller coupled to the coupling circuit switches, the power switch, and  
15 the first and second control paths, and adapted to control the coupling circuit switches  
16 and the power switch based on communication through the first and the second  
17 communication lines.

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19          25.   (New) The coupling circuit of claim 24, wherein the microcontroller  
20 includes a processor coupled to the power switch and coupled to the coupling circuit  
21 switches.

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23          26.   (New) The coupling circuit of claim 24, wherein the microcontroller  
24 includes a processor coupled to a set of D flip-flops that are coupled to the power switch  
25 and coupled to the coupling circuit switches.

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27          27.   (New) The coupling circuit of claim 24, wherein the microcontroller is  
28 programmed to as follows:

29           power up the single ported storage device; and  
30           power down the single ported storage device.

1           28.   (New) The coupling circuit of claim 24, wherein the microcontroller is  
2 further programmed to as follows:

3           switch the coupling circuit to a first storage controller; and  
4           switch the coupling circuit to a second storage controller.

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6           29.   (New) The coupling circuit of claim 24, wherein the microcontroller is  
7 further programmed to as follows:

8           write data to a memory;  
9           read data from a memory; and  
10          read the status of the coupling circuit.

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12          30.   (New) The coupling circuit of claim 24, wherein the status includes  
13 whether the single ported storage device is coupled to the first controller-side  
14 transceiver or the second controller-side transceiver, the single ported storage device is  
15 powered up or down, the communication status, and/or the board revision and the code  
16 revision levels of the coupling circuit.

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18          31.   (New) The coupling circuit of claim 24, wherein the first and second  
19 communication lines are serial bidirectional lines.